

# Work Order ID 62647

Wednesday, October 06, 2010 8:13:57 AM

Page 1

Item ID: D3196-3

Accept

Setup Start

Revision ID:

Item Name: Bar

Stop

Start Date: 10/6/2010 Start Qty: 4.00

Required Date: 10/15/2010 Req'd Qty: 4.00

Cust Item ID:

Customer:

Reference: Nos. 1

Approvals:

Process Plan: *H*

Date: *10-10-10*

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D3196

Rev C

100

0.00



BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut blank: (0.75" x 1.50") x 34.750" long Bar

*and 10/11/23*

*4 0*

110

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

-HAAS CNC vertical machine #1

1-Machine D3196-3 as per Folio FA339 and Dwg D3196 Identify as D3196-3□2-  
Deburr

*and 10/11/23*

*4 0*

120

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

*and 10/11/23*

*4 0*

**Work Order ID 62647**

Wednesday, October 06, 2010 8:13:57 AM

Page 2

Item ID: D3196-3

Accept

Revision ID:

Item Name: Bar

Start Date: 10/6/2010 Start Qty: 4.00

Required Date: 10/15/2010 Req'd Qty: 4.00

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

QC8- Inspect parts - second check

0.00

QC

Memo

0.00

Quality Control

H.A 10/11/24

4

Ø

140

Chemical Conversion Coat per QSI005 4.1

0.00

HandFinish

Memo

0.00

Hand Finishing

⇒ JCL 10/11/24

4

Ø

150

Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3

0.00

Powdercoat

Memo

0.00

Powder Coating

M112588

START TIME:

1:45

□OVEN TEMPERATURE:

320° □FINISH TIME:

2:15

H. BL 10-11-25

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 62647**

Wednesday, October 06, 2010 8:13:57 AM

Page 3

Item ID: D3196-3

Accept

Revision ID:

Item Name: Bar

Start Date: 10/6/2010 Start Qty: 4.00

Required Date: 10/15/2010 Req'd Qty: 4.00

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

170

Identify as per dwg &amp; Stock Location: 262

0.00



Packaging

Memo

0.00

Packaging

180

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control



= 7 10/11/25

x4 0

10/11/26 4

10/11/26  
MF  
10-11-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Wednesday, October 06, 2010 8:14:02 AM

Page 1

Work Order ID: 62647

Parent Item: D3196-3

Parent Item Name: Bar



Start Date: 10/6/2010

Required Date: 10/15/2010

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev: A New Issue 05-11-08 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B0.750X01.50 0		Purchased	No			100	f	30.9773	2.89	12.16842			



6061-T6 Bar .750 X 1.50



Location	Loc Qty	Loc Code
MAT	2.5606	
114415	2.5606	
MAT028	28.4167	
114968	20	
114993	8.4167	

M116135

12.1684

mk 10/11/23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	62647
<b>Description:</b> Bar		<b>Part Number:</b>	D3196-3
<b>Inspection Dwg:</b> D3196 <b>Rev:</b> C		<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article      ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
34.625	+/-0.010	34.625	✓		M-type	ML-2
33.650	+/-0.005	33.650	✓		"	"
0.488	+/-0.005	.499	✓		Vern	ML-7
17.011	+/-0.010	17.011	✓		M-type	ML-2
0.512	+/-0.005	.512	✓		Vern	ML-7
1.500	+/-0.010	1.503	✓		"	"
0.464	+/-0.010	.461	✓		"	"
0.504	+/-0.010	.502	✓		"	"
Ø0.344	+0.006/-0.001	Ø.346	✓		"	"
Ø0.660 x 100°	+0.008/-0.001 x 0.5°	Ø.660x100°	✓		"	"
0.962	+/-0.005	.964	✓		"	"
0.750	+/-0.010	.750	✓		"	"
4.750	+/-0.010	4.750	✓		M-type	ML-2
12.531	+/-0.010	12.531	✓		"	"
16.999	+/-0.010	16.999	✓		"	"
21.844	+/-0.010	21.844	✓		"	"
29.625	+/-0.010	29.625	✓		"	"
0.250	+/-0.010	.250	✓		Vern	ML-2
1.000	+/-0.010	1.000	✓		"	"
R0.125	+/-0.010	R.125	✓		Rad-gage	REF
0.987	+/-0.010	.990	✓		Vern	ML-2
0.060 x 45°	+/-0.010 x 0.5°	.056x45°	✓		"	"

<b>Measured by:</b>	GML	<b>Audited by:</b>	B.A	<b>Prototype Approval:</b>	N/A
<b>Date:</b>	10/11/23	<b>Date:</b>	10/11/24	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	04.04.20	New Issue	KJ/RF	
B	06.10.24	Dwg Rev. updated	KJ/JLM	
C	07.05.08	Dwg Rev. updated	KJ/JLM	



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

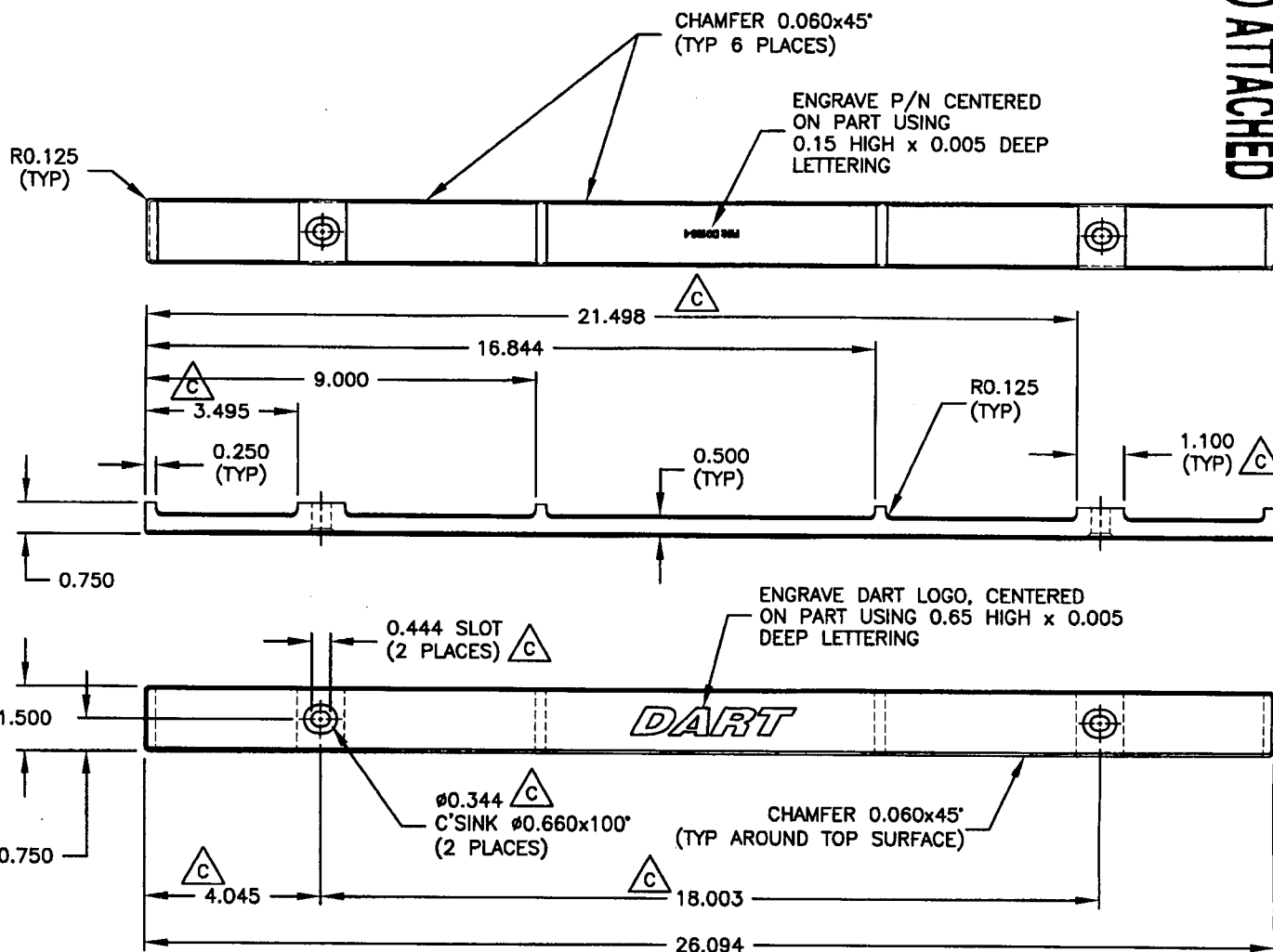
**NOTE:** Date & initial all entries

**DART**

RELEASED

06.10.31

DEO ATTACHED



**D3196-1 BAR**

- 1) MATERIAL: 6061-T6/T651 ALUMINUM (QQ-A-200/8 OR QQ-A-225/8) (REF DART SPEC. M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1  
POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

SHOWN BY  
REVISION  
ENGINEER  
UNCONTROLLED  
SUBJECT TO

NO. 02647  
06.10.06

DESIGN	DRAWN BY	DART AEROSPACE LTD	REV. C
00	JB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	SHEET 1 OF 3
AM	JB	D3196	
DATE	TITLE	SCALE	
06.10.31	BAR	1:4	
A	03.06.25	NEW ISSUE	
B	06.09.25	ADD D3196-5	
C	06.10.31	ADD SLOTS ON -1; REMOVED -5	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

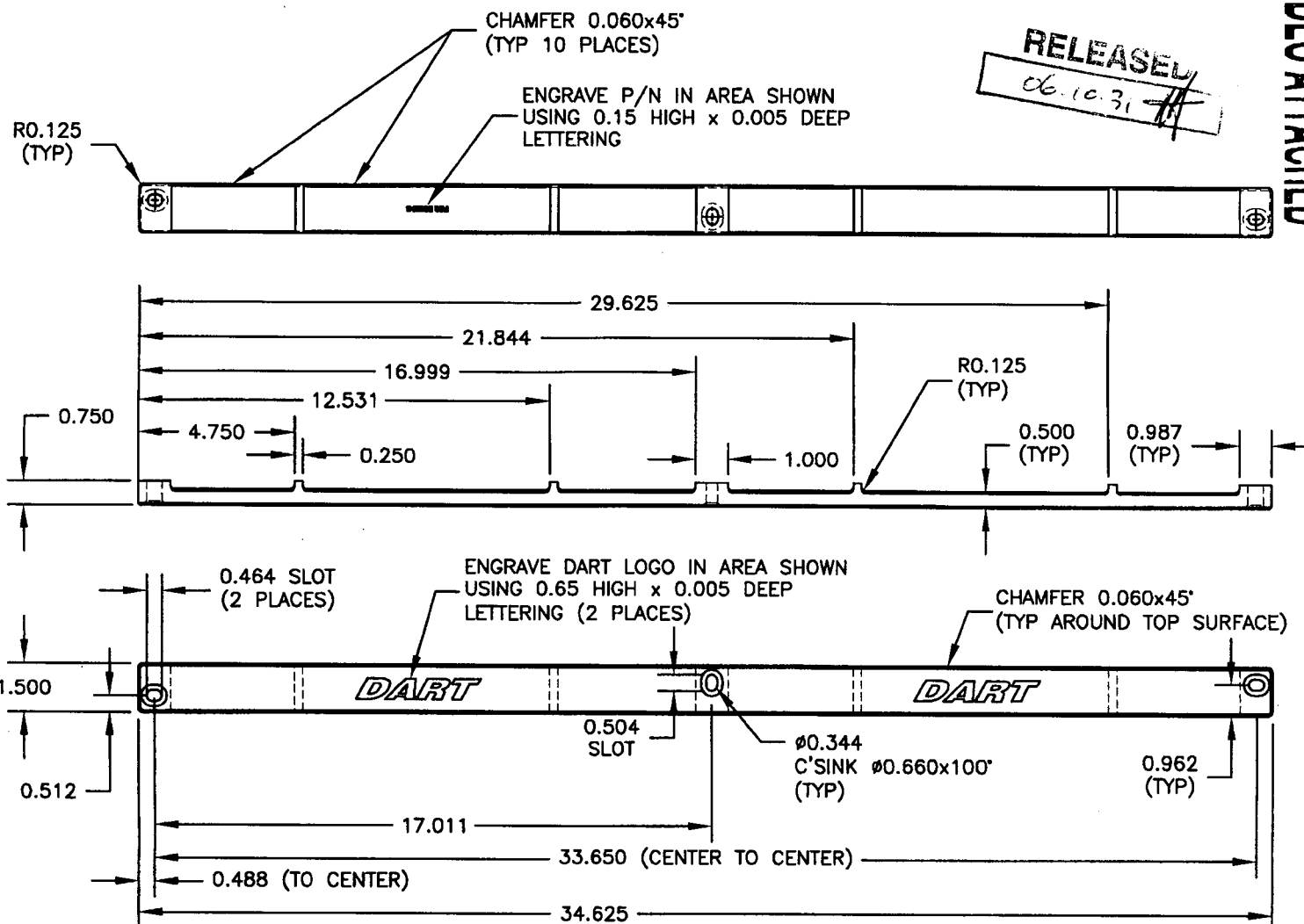
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**DART**

**DEO ATTACHED**

RELEASED  
06.10.31



**D3196-3 BAR**

- 1) MATERIAL: 6061-T6/T651 ALUMINUM (QQ-A-200/8 OR QQ-A-225/8)  
(REF DART SPEC. M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1  
POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

W/O 42647

DESIGN	APPROVED	DRAWING NO.	REV. C
CHECKED	APPROVED	D3196	SHEET 2 OF 3
DATE	TITLE	SCALE	
06.10.31	BAR	1:5	

**DART AEROSPACE LTD**  
HAMKESBURY, ONTARIO, CANADA

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

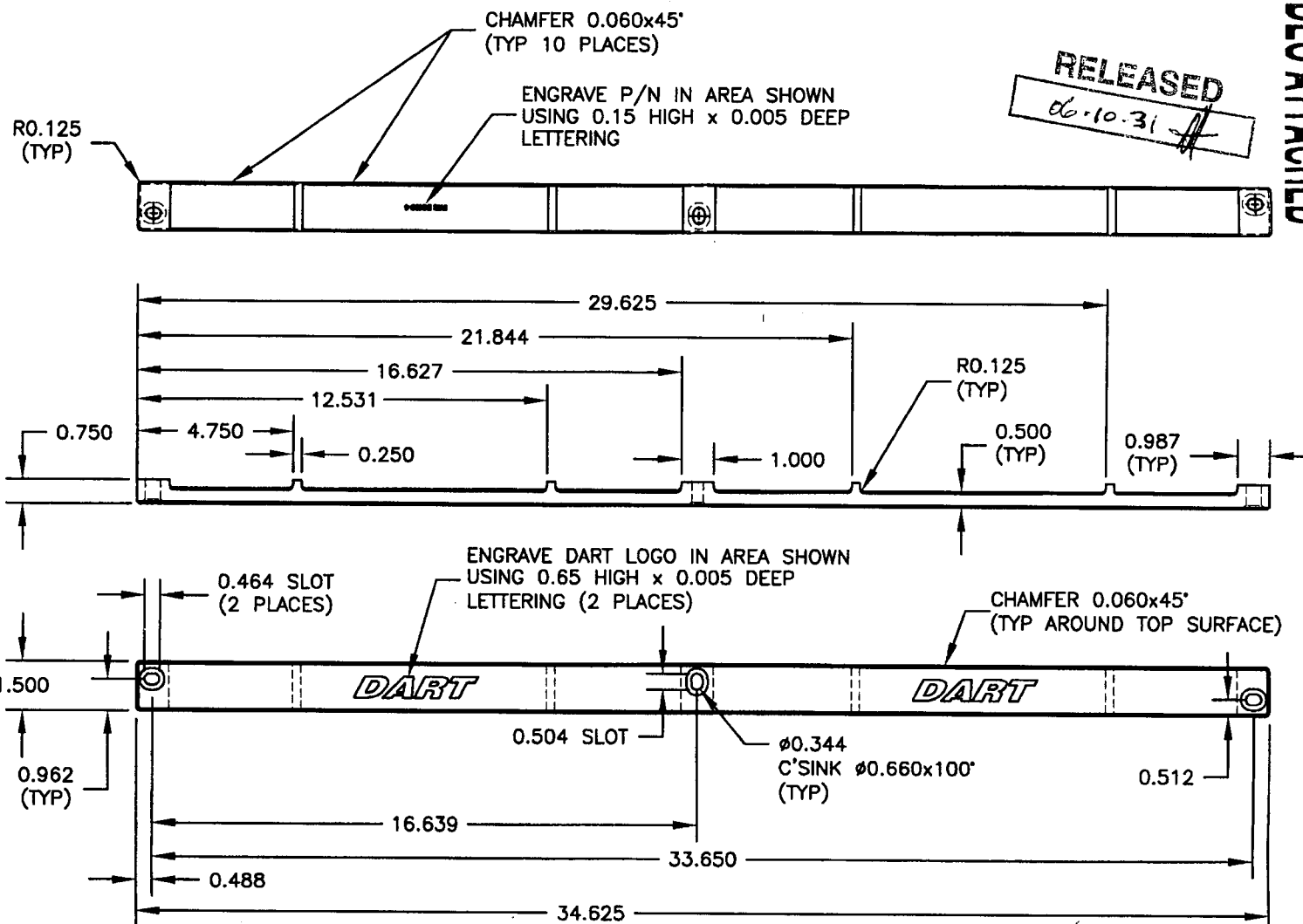
**NOTE:** Date & initial all entries

**DART**

**DEO ATTACHED**

**RELEASED**

06-10-31



**D3196-4 BAR**

- 1) MATERIAL: 6061-T6/T651 ALUMINUM (QQ-A-200/8 OR QQ-A-225/8)  
(REF DART SPEC. M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1  
POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

DESIGN	APPROVED	DRAWING NO.	REV. C
CHECKED	APPROVED	D3196	SHEET 3 OF 3
DATE	TITLE	SCALE	
06.10.31	BAR	1:5	

**DART AEROSPACE LTD**  
HAWKESBURY, ONTARIO, CANADA

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DRAWING NO. D3196	TITLE BAR	REV. C	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D3196-C-1	SHEET NO. SHEET 1 OF 2	SCALE NTS
DRAWN <i>ASS</i>	CHECKED <i>[Signature]</i>	MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>		DE APPR. <i>[Signature]</i>		
DATE 08.08.27	DATE 08.08.28	DATE 08.08.29	DATE 08.08.29	DATE 08.08.29	DATE 08.09.04		

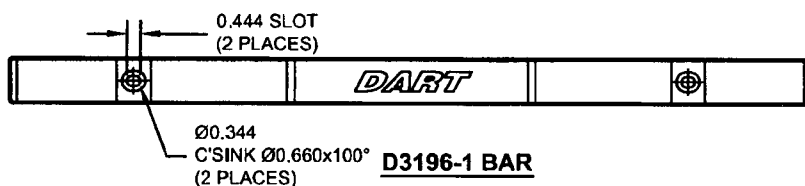
SHEET 1 MODIFY SLOT DIMENSIONING ON D3196-1 AS SHOWN:

IS:



D3196-1 BAR

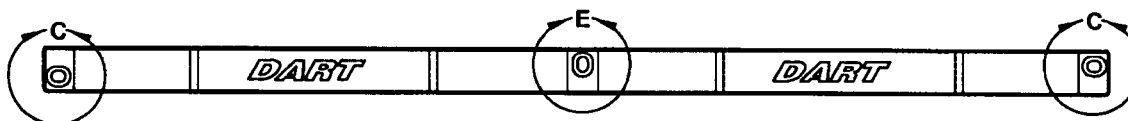
WAS:



D3196-1 BAR

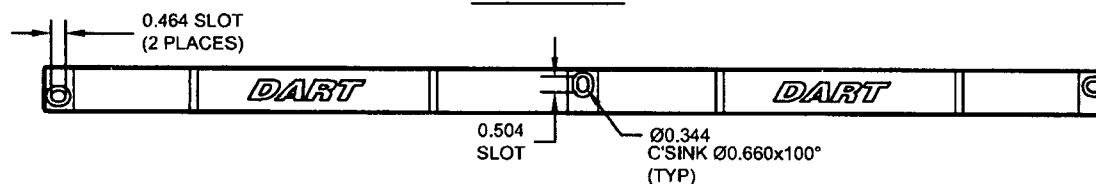
SHEET 2 MODIFY SLOT DIMENSIONING ON D3196-3 AS SHOWN:

IS:



D3196-3 BAR

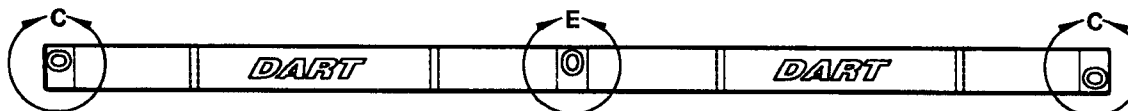
WAS:



D3196-3 BAR

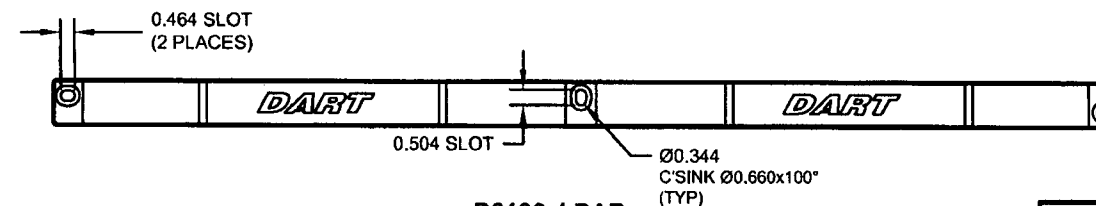
SHEET 3 MODIFY SLOT DIMENSIONING ON D3196-4 AS SHOWN:

IS:



D3196-4 BAR

WAS:



D3196-4 BAR



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

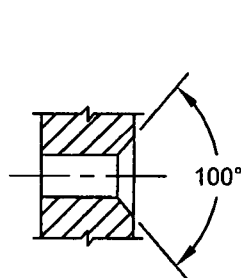
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

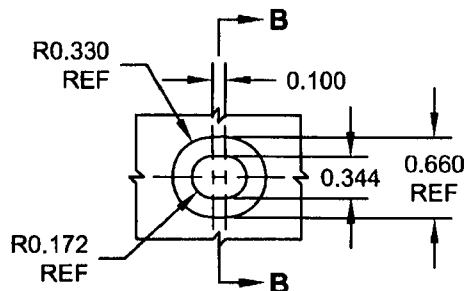
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

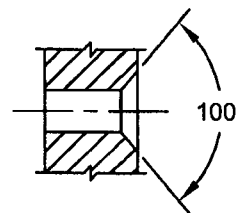
DRAWING NO. D3196	TITLE BAR	REV. C	<b>DART AEROSPACE LTD ENGINEERING ORDER</b>	D.E.O. NO. D3196-C-1	SHEET NO. SHEET 2 OF 2	SCALE NTS
DRAWN <i>ASS</i>	CHECKED <i>[Signature]</i>	MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DE APPR. <i>[Signature]</i>		
DATE 08.08.27	DATE 08.08.28	DATE 08.08.29	DATE 08.08.29	DATE 08.08.29	DATE 08.09.04	



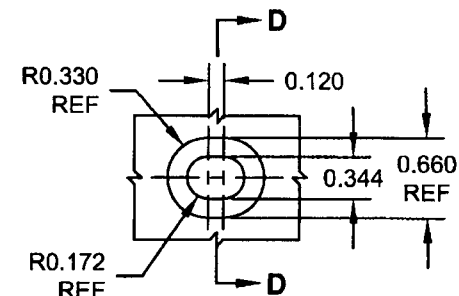
**SECTION B-B**



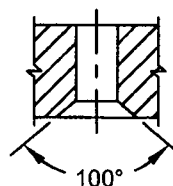
**DETAIL A**



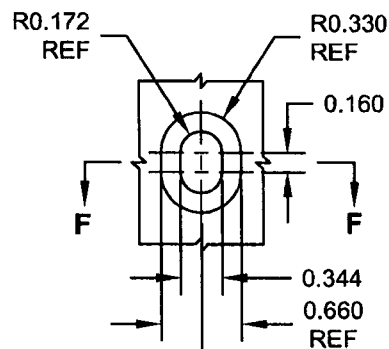
**SECTION D-D**



**DETAIL C**



**SECTION F-F**



**DETAIL E**

*w/o 6264*

NOTE: THIS CHANGE HAS BEEN DONE TO CLARIFY SLOT DIMENSIONS ONLY. NO CHANGES HAVE BEEN MADE TO THE PARTS  
SEE NCR 08-051 FOR FURTHER INFORMATION  
ALL OTHER INFORMATION REMAINS UNCHANGED

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries